



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: KUZ-0019  
Inventors: Yasukochi et al.  
Serial No.: 10/502,474  
Filing Date: July 23, 2004  
Examiner: Choi, Ling Siu  
Group Art Unit: 1713  
Title: Pressure-Sensitive Adhesive and  
Patch Employing the Same

Commissioner for Patents  
PO BOX 1450  
Alexandria, VA 22313-1450

Dear Sir:

DECLARATION UNDER 37 C.F.R. 1.132

I, Takashi Yasukochi, declare as follows:

1. I am one of the co-inventors of U.S. Application Serial No. 10/502,474 filed on July 23, 2004. I am thoroughly familiar with the contents of said Application, its prosecution before the United States Patent and Trademark Office and the references cited therein.

2. I graduated from the Osaka University with a degree of Science in 1999.

3. I have been employed by Hisamitsu Pharmaceutical Co. Inc. since 1999, as a Researcher in the Exploratory Research Laboratories.

4. I am thoroughly familiar with the Office Action which was mailed on July 14, 2005 where the Examiner rejected the claimed subject matter as being obvious over the teachings of Tsubota et al (US 5,049,417).

5. In order to overcome the rejection, the following experiments were conducted under my control.

6. The experiments herein were conducted in accordance with procedures disclosed in the specification examples.

#### MATERIALS AND METHODS

We investigated and studied following cases. We prepared adhesive layers in the same manner as in Examples 1 and 2 of the present application.

Preparation of the adhesive layer solution in Example 1:

4.45 g of a DURO-TAK<sup>®</sup> (No. 387-2287, manufactured by National Starch and Chemical Company), which is an acrylic polymer, and 0.5 g of isopropyl myristate were mixed, 2 mL of ethyl acetate was added thereto, the mixture was stirred for 1 hour, 0.05 g of a boric acid solution [methanol solution (30 mg/mL)] was then added thereto, and the mixture was stirred for 5 minutes to give an adhesive layer solution.

Preparation of the adhesive layer solution in Example 2:

0.2 g of estradiol, 0.35 g of norethisterone acetate, 0.5 g of isopropyl myristate, and 1.0 g of polyvinylpyrrolidone were mixed, 2 mL of ethanol was added thereto, the mixture was stirred for 2 hours, 2.9 g of a DURO-TAK<sup>®</sup> (No. 387-2287) and 2 mL of ethyl acetate were then added thereto and dissolved therein, and the mixture was further stirred for 3 hours until a uniform solution was obtained. 0.05 g of a boric acid solution [methanol solution (30 mg/mL)] was added thereto and stirred for 5 minutes to give an adhesive layer solution.

#### Preparation of adhesive layers in Examples 1 and 2

Each of the adhesive layer solutions described above was spread out on a silicone-treated surface of an 80  $\mu$ m thick polyethylene terephthalate (PET) film and crosslinked at 100°C for 15 minutes to give an 80  $\mu$ m adhesive layer of the present invention.

The surfaces of the adhesive layers were investigated by SEM photograph (Device: Topcon ABT-32, Conditions: Voltage 5KV, Power  $\times 200$ ).

#### RESULT

The SEM photographs attached hereto show that both of the surfaces of the adhesive layers of the present invention are flat and have no communication pores which

are described in U.S. pat. No.5,049,417. SEM photo of surface of example 1 also shows a cross-section of the adhesive layer, which is clearly different from the one shown as Fig.1C in U.S. pat. No.5,049,417.

#### CONCLUSION

The data already of record in the specification and the supplemental data submitted herewith demonstrate that the adhesive of the present invention differs structurally from the air-permeable adhesive tape of the cited prior art.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made upon information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

12. oct. 05

Date

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